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10/566,209	01/27/2006	William Charman	66307358	5439

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EXAMINER	
KASSA, TIGABU	

ART UNIT	PAPER NUMBER
1619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/566,209	CHARMAN ET AL.	
	Examiner	Art Unit	
	TIGABU KASSA	1619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/27/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-22 are pending. Claims 1-22 are under consideration in the instant office action.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d).

Information Disclosure Statement

The information disclosure statement (IDSs) submitted on 01/27/06 is noted and the submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 9-10, 12-17 and 22 are rejected under 35 U.S.C. § 102(e) as being anticipated by Gladman et al. (US Patent Application Publication 2005/0238676).

Instant claim1 recites a biliquid foam comprising a hydrophilic phase, a pharmaceutically asseptable oil, a poorly water-soluble drug and a surfactant at the instantly claimed percentages. Instant claim 2 recites the system of claim 1 wherein the hydrophilic phase is aqueous. Instant

claim 3 recites the system of claim 2 wherein the aqueous phase is water. Instant claim 3 recites the system of claim 2 wherein the aqueous phase contains a salt or a co-solvent. Instant claim 9 recites the system of claim 1 wherein the surfactant is selected from the instantly claimed list. Instant claim 10 recites the system of claim 1 which includes a co-emulsifier. Instant claim 12 recites the system of claim 1 wherein the discontinuous phase comprises 85-96% of the biliquid foam. Instant claim 13 recites the system of claim 12 wherein the discontinuous phase comprises 90-95% of the biliquid foam. Instant claim 14 recites the system of claim 1 wherein the hydrophilic phase comprises 2-10% of the biliquid foam. Instant claim 15 recites the system of claim 1 wherein the surfactant comprises from 0.5-5% of the composition. Instant claim 16 recites the system of claim 1 wherein the drug is selected from the instantly claimed list. Instant claim 17 recites the system of claim 1 which is in a unit dosage form. Instant claim 22 recites the system of claim 1 for use in oral administration to humans or animals.

Gladman et al. discloses the preparation of biliquid foams (abstract). Preparation 9, for example, discloses an **aqueous phase containing water and an oil phase containing ibuprofen, isopropyl myristate, and laureth 3** (page 6, paragraph 0081). The preparation also comprises a **second surfactant or co-emulsifier, namely Tween 20**. The ingredients are present in following concentrations**: water 9.9%, the Tween 20 0.1%, ibuprofen 4.5%, isopropyl myristate 84.5%, and laureth 3 1%.** The aqueous phase, according to the examiners calculations, comprises 10% the aqueous phase and the oil phase comprises 90% of the preparation. The examiner notes that **isopropyl myristate is a pharmaceutically acceptable oil, laureth 3 is an ethoxylated alcohol, and ibuprofen is an analgesic and an anti-inflammatory agent**. Example 12 discloses the formation of tablets from the biliquid foam of preparation 9 by

first preparing a dispersion of the biliquid foam (page 10 paragraphs 0112-0114). The examiner notes that such tablets would be an example of a unit dosage suitable for oral administration. Because applicant has claimed a preparation, the examiner has given no weight to the method of treatment disclosed in claim 22. Claim 22 is, therefore, equivalent to claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness

Claims 1, 2, and 4-8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladman et al. (US Patent 0238676) in view of Wheeler et al. (WO 97/332559 IDS reference).

Applicant Claims

The claimed subject matter of instant claims 1, and 2. are set forth above. Instant claim 4 recites the system of claim 2 wherein the hydrophilic phase is non-aqeous. Instant claim 5 recites the system of claim 1 wherein the hydrophilic phase is non-aqueous. Instant claim 6 recites the system of claim 5 wherein the non-aqueous solvent is selected from the instantly claimed list. Instant claim 7 recites the system of claim 1 wherein the pharmaceutically acceptable oil is a mono-, di-, or triglyceride or a mixture thereof. Instant claim 8 recites the system of claim 7 wherein the mono-, di-, or triglycerides have carbon chain of 6-22 carbons.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Gladman et al. are disclosed above.

Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)

Gladman et al. do not teach the incorporation of non-aqueous co-solvents such as those listed in instant claim 6. Gladman et al. do not teach the incorporation of a salt or co-solvent in the aqueous phase. Gladman et al. do not teach incorporation of the pharmaceutically acceptable oils listed in instant claims 7 and 8. These deficiencies are cured by Wheeler et al. (WO 97/332559).

Wheeler et al. teach a biliquid foam suitable for use in pharmaceutical and other industries (abstract). Moreover, Wheeler discloses the incorporation of an alcohol such as ethanol or propanol, a glycol (for example propylene glycol), glycerin, or other acceptable water soluble materials in the hydrophilic phase (page 4). The examiner notes that these are both examples of hydrophilic non-aqueous solvents and of co-solvents. Caprylic/capric triglyceride is listed by Wheeler et al. as an acceptable oil. The examiner notes that caprylic/capric triglycerides have carbon chains of 8 and 10 carbons.

Finding of Prima Facie Obviousness Rationale and Motivation (MPEP §2142-2143)

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the instant invention to substitute a triglyceride for the isopropyl myristate taught by Galdman et al. because Wheeler et al. teaches the use of caprylic/capric triglycerides in biliquid foams. An ordinary skilled artisan would have been motivated to substitute caprlic/capric triglycerides for isopropyl myristate because both are pharmaceutically acceptable oils. An ordinary skilled artisan would have had a reasonable expectation of success upon combination of the prior art teachings, because both Gladman et al. and Wheeler et al. teach the preparation of biliquid foams for use with pharmaceuticals which contain pharmaceutically acceptable oils.

It would have been prima facie obvious to a person of ordinary skill in the art at the time the present invention was made to include an aliphatic alcohol, glycol, etc. because Wheeler et al. teaches the incorporation of such hydrophilic solvents in biliquid foam. The skilled artisan would have been motivated to incorporate such solvents in order to enhance the solubility of poorly soluble, e.g., drugs. An ordinary skilled artisan would have had a reasonable expectation of success upon combination of the prior art teachings, because both Gladman et al. and Wheeler

et al. teach the preparation of biliquid foams for use with pharmaceuticals which contain a hydrophilic phase.

Therefore, the invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

Claims 1 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladman et al. (US Patent 0238676) in view of Metziger et al. (US Patent 5952383).

Applicant Claims

The claimed subject matter of instant claims 1 and 17. Instant claim 18 recites system of claim 17 wherein capsules are filled with the biliquid foam. Instant claim 19 recites the system of claim 18 wherein the capsules are hard or soft gelatin. Instant claim 20 recites the system of claim 1 which is in the form of a dilutable concentrate. Instant claim 21 recites the system of claim 20 which is dilutable in a co-solvent.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Gladman et al. are set forth above.

Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)

Gladman et al. do not teach gelatin capsules containing the biliquid foam. This deficiency is cured by Metziger et al. (US Patent 5952383).

Metziger et al. teach pharmaceutical compositions for oral administration containing a medicinal product that is insoluble or sparingly soluble in water (abstract). The composition contains the pharmaceutical agent, an oil such as a triglyceride of 8-12 carbons and a surfactant

such as a nonionic surfactant in addition to other ingredients (see claims 1, 2 and 5). The composition can then be formed into soft or hard gelatin capsules (see claims 9 and 11).

Finding of Prima Facie Obviousness Rationale and Motivation (MPEP §2142-2143)

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the instant invention to modify the teachings of Gladman et al. to incorporate the composition containing the poorly water-soluble drug in a capsule because Metziger et al. teach the incorporation of such poorly water-soluble drugs in gelatin capsules (see claims 1, 9 and 11). An ordinary skilled artisan would have been motivated to incorporate the composition in a capsule because capsules are commonly known and commonly used pharmaceutically acceptable forms. An ordinary skilled artisan would have had a reasonable expectation of success upon combining the prior art teachings, because Gladman et al. and Metziger et al. teach pharmaceutical compositions containing poorly water-soluble drugs. Moreover, Gladman et al. already teach the formation of tablets which are similar pharmaceutically acceptable form used for oral administration; use of one pharmaceutically acceptable form in place of another similar pharmaceutically acceptable form is within the purview of the skilled artisan.

It would have been prima facie obvious to the ordinary skilled artisan to form a concentrate of the composition disclosed in claim 1 because concentrates are convenient to store and to work with. It would have also been prima facie obvious to the skilled artisan to dilute the concentrate in a suitable co-solvent because concentrates are diluted prior to use. The skilled artisan would have been motivated to form a concentrated which can be diluted in a co-solvent because such concentrates which are then diluted are commonly known in the pharmaceutical

industry and are used for a wide variety of drug compositions. The skilled artisan would have a reasonable expectation of success because concentrates are generally easy to make and use.

Therefore, the invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

Claims 1 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gladman et al. (US Patent 0238676) in view of Leigh et al. (US Patent 6599527).

Applicant Claims

The claimed subject matter of instant claims 1 and 10. Instant claim 11 recites the system of claim 10 wherein the co-emulsifier is a phosphoglyceride or a phospholipid.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Gladman et al. are set forth above.

Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)

Gladman et al. do not teach the incorporation of the co-emulsifiers listed in instant claim 11. This deficiency is cured by Leigh et al.

Leigh et al. teach pharmaceutical compositions for the improved absorption of lipophilic drugs which comprises phospholipids such as phosphatidylcholine and mono-acyl phosphatidyl choline (abstract).

Finding of Prima Facie Obviousness Rationale and Motivation (MPEP §2142-2143)

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the instant invention to modify the teachings of Gladman et al. to substitute a phospholipid for Tween 20 as the co-emulsifier because substitution of one emulsifier for another is within the purview of the skilled artisan . An ordinary skilled artisan would have been motivated to incorporate the phospholipid because phospholipids enhance the absorption of and bioavailability of lipophilic drugs (column 5, lines 39-50). Moreover the absorption, transport and phanmacokinetics of phospholipids are well-known (column 5, lines 51-21). Such phospholipids as, e.g., phosphatidylcholine and mono-acyl phosphatidyl choline are endogenous compounds and, therefore, would be expected to have beneficial rather than adverse side effects (column 6, lines 1-6). An ordinary skilled artisan would have had a reasonable expectation of success upon combining the prior art teachings, because both Gladman et al. and Leigh et al. teach pharmaceutical compositions containing poorly water-soluble drugs.

Therefore, the invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

Conclusion

Claims 1-22 are pending. Claims 1-22 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIGABU KASSA whose telephone number is (571)270-5867. The examiner can normally be reached on 9 am-5 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tigabu Kassa 01/15/09

/PORFIRIO NAZARIO GONZALEZ/
Primary Examiner, Art Unit 1621